diameter of 12 smooth and 10 complex coronary stenoses and their adjacent reference (R) segment was measered by quantitative angiography.
Results: LA 50 µmol/min dilated smooth stenoses (6.4+/-1.4%) and complex stenoses (7.3+/-3.2%). LA 150 µmol/min significantly dilated smooth (7.3+/-2.9%) and complex stenoses (13.7+/-2.5%, p<0.05 vs smooth stenoses). No significant difference was found in R segment for smooth and complex stenoses in response to 50 µmol/min (4.5+/-1.4% and 6.3+/-2.9% respectively) and to 150 µmol/min (10.5+/-2.2% vs 10.4+/-2.4%). GTN significantly dilated smooth (14.9+/-3.4%) and complex stenoses (19.4+/-2.3%). There was a significant correlation between stenosis severity and LA induced dilation (r=0.56, p<0.001).
Conclusion: In patients with CAD, complex coronary stenoses dilate significantly more than smooth stenoses after LA administration. This finding is consistent with partial deficiency of the substrate for nitric oxide synthesis at the site of complex stenoses. The provision of LA significantly enhances nitric oxide activity at the site of complex severe stenoses.

1051-48 Selective Serotonin $5HT_{2A}$ Receptor Inhibition Attenuates Myocardial Ischemia Through the Increase in Nitric Oxide Production: The Alternative Role of $5HT_{1B}$ Receptor

Shoji Sanada, Masafumi Kitakaze, Koichi Node, Hiroshi Asanuma, Hisakazu Ogita, Seiji Takashima, Masanori Asakura, Tetsuo Minamino, Masatsugu Hori, *Osaka University Graduate School of Medicine, Suita, Japan, National Cardiovascular Center, Suita, Japan.*

Background: Serotonin is released during myocardial ischemia and activates both $5HT_{1B/2B}$ and $5HT_{2A}$ receptors. The former activation increases nitric oxide (NO) production, and the latter constricts coronary artery. If $5HT_{2A}$ receptors are blocked during myocardial ischemia, relative activation of $5HT_{1B/2B}$ receptors may enhance NO production and increase coronary blood flow (CBF). Therefore, we tested this idea using a selective serotonin $5HT_{2A}$ receptor inhibitor, sarpogrelate hydrochloride, in ischemic canine heart.
Methods: After hemodynamic stabilization, blood flow of the left anterior descending coronary artery (LAD) was reduced to one-third of the baseline with low constant coronary perfusion pressure (CPP: 40.2±3.4mmHg). Thereafter, sarpogrelate (4.66 mg/CBF (L/min)) was infused for 15 min into the LAD with or without an intracoronary infusion of L-NAME (an inhibitor of NO synthesis; 10 mg/CBF (L/min)) or GR55562 (a selective $5HT_{1B}$ blocker; 0.457 mg/CBF (L/min)) (the Sarpogrelate+L-NAME group, the Sarpogrelate group and the Sarpogrelate+GR55562 group, respectively) under constant CPP.
Results: There were no significant differences in CBF and CPP at the baseline condition between two groups. Fifteen min after the Sarpogrelate administration, CBF increased from 34.0±4.0 to 44.5±4.4 ml/100g myocardium/min (n=10, p<0.01), greater (p<0.05) than that in the Sarpogrelate+L-NAME group (from 31.1±3.5 to 31.6±2.7 ml/100g myocardium/min, n=9, N.S.).
Conclusion: We conclude that a selective serotonin $5HT_{2A}$ receptor blocker, sarpogrelate hydrochloride, increases coronary blood flow during ischemia via nitric oxide-dependent mechanism in canine hearts. Sarpogrelate hydrochloride can be beneficial for the treatment of ischemic heart disease.

POSTER SESSION
1074 Basic Insights From Large Clinical Trials
Monday, March 18, 2002, 9:00 a.m.-11:00 a.m.
Georgia World Congress Center, Hall G
Presentation Hour: 10:00 a.m.-11:00 a.m.

1074-31 Left Ventricular Filling and Remodeling After Myocardial Infarction: Results From the GISSI-3 Echo Substudy

Pier L. Temporelli, Pantaleo Giannuzzi, Francesco Gentile, Donata Lucci, Aldo P. Maggioni, Gian Luigi Nicolosi, *Salvatore Maugeri Foundation, Veruno, Italy, Centro Studi ANMCO, Firenze, Italy.*

Background. We sought to determine the relation between LV filling pattern and remodeling in a large cohort of post-AMI patients (pts).
Methods. Doppler mitral profile, end-diastolic (EDVi) and end-systolic (ESVi) volume index, ejection fraction (EF) and extent of wall motion abnormalities (%WMA) were evaluated in 571 pts enrolled in the GISSI-3 Echo substudy, with echo-Doppler recordings at 24-48 hours (baseline), pre-discharge, and 6 months after uncomplicated AMI. On transmitral pattern, peak early (E) and late (A) velocity, their ratio (E/A), and early deceleration time (DT) were considered. According to baseline DT, pts were assigned to group 1, with DT <130 ms (n = 147), and group 2, with DT >130 ms (n = 424).
Results. Pts in group 1 had greater ESVi (p<0.05) and %WMA (p<0.01), and lower EF (p<0.008) than those in group 2; moreover, despite a greater increase in DT (from 116 to 155 ms, group 1; from 173 to 186 ms, group 2, p< 0.001), they showed a more severe dilation after 6 months (EDVi: from 81 to 94 ml/m2 in group 1; from 78 to 82 ml/m2 in group 2, p<0.001; ESVi: from 46 to 55 ml/m2 in group 1; from 41 to 43 ml/m2 in group 2, p<0.001) together with an impairment in EF (from 44 to 42%, group 1; from 48 to 48% group 2, p< 0.008) and a lesser recovery of %WMA (from 31 to 28 group 1; from 23 to 17 group 2, p<0.01). Among the 147 group 1 pts, those with pre-discharge persistent DT <130 ms (n = 56) showed at 6 months a greater EDVi and ESVi enlargement (p<0.001), and a greater impairment in EF (p<0.009) compared to those (n = 91) with significant prolongation of DT (>130 ms). At multivariate analysis, baseline DT <130 ms (OR: 2.38), EDVi (OR: 0.96) and %WMA (OR: 1.02) were predictors of >5% dilation at 6 months; moreover, when changes in %WMA, EF and DT from baseline to pre-discharge were included in the analysis, baseline %WMA (OR: 1.02) and EDVi (OR: 0.95), together with pre-discharge persistent short (<130 ms) DT (OR: 3.06), predicted severe (>20%) late LV dilation.
Conclusion. LV dilation occurs even in uncomplicated MI, in spite of significant recovery of %WMA and improvement in LV filling. A short (<130 ms) baseline DT which persists at pre-discharge allows identification of pts more compromised and at high risk for progressive late LV dilation.

1074-32 Beneficial Effect of Revascularization in Elderly Patients With Cardiogenic Shock

Aaron Kugelmass, Sai Sadanandan, Lynn G. Tarkington, Salvatore L. Battaglia, April W. Simon, Steven D. Culler, Edmund R. Becker, *Emory University, Atlanta, Georgia, University of Oklahoma, Oklahoma City, Oklahoma.*

Background: Previous studies of cardiogenic shock (CS) patients have shown patients ≥ 75 y/o (older CS) do not receive benefit from coronary revascularization. This retrospective study assesses the impact of various revascularization treatment strategies on in-hospital survival rates among CS patients in a community setting, after adjusting for differences in a patient's gender and 27 co-morbid conditions.
Method: The sample for this study, 5,030 consecutive CS patients who had a hospitalization with a primary diagnosis of acute MI, was selected from a dataset on all patients discharged from HCA Hospitals for the period January 1998 through March 2001. Logistic regression analysis, estimated separately for younger (n=2525) and old (n=2505) CS patients, was used to determine if the observed revascularization treatment strategy (thrombolytic only, PCI only, CABG only, or PCI and CABG) improved hospital survival.
Results: The table indicates that elderly CS patients undergoing revascularization treatment are between 1.73 times (thrombolytics only) and 2.49 times (CABG only) more likely to survive an acute MI hospitalization than elderly CS patient receiving no treatment. Younger CS patients received even greater benefit from each treatment strategy.
Conclusions: Reperfusion with thrombolytics or mechanical revascularization significantly impoves survival in older, as well as younger AMI patients with CS. An aggressive revascularization strategy should be considered in elderly CS patients.

Risk Adjusted Odds Ratios for Survival by Treatment Strategy Relative to No Treatment

	Age < 75	Age 75 or Greater
Thrombolytics Only	1.93 (p=0.007)	1.73 (p=0.033)
PCI Only	2.39 (p<0.001)	2.06 (p<0.001)
CABG Only	2.61 (p<0.001)	2.49 (p<0.001)
PCI and CABG	3.01 (p<0.001)	2.47 (p=0.006)

1074-33 Improving Outcome in Treatment of Diabetics With ST Elevation Myocardial Infarction: Insights From the GUSTO Trials

Hitinder S. Gurm, WH Wilson Tang, David Lee, Gang Jia, A Michael Lincoff, Eric J. Topol, *Cleveland Clinic Foundation, Cleveland, Ohio.*

Background: Diabetics with acute ST-segment elevation myocardial infarction (MI) have a worse outcome compared to non-diabetics. Higher risk patients are more likely to benefit from advances in medical therapy. **Methods:** We analyzed the diabetic patients enrolled in GUSTO I, III and V trials to define the trends in use of adjuvant therapies and in short-term outcome. We excluded patients from countries that were not represented in all the three trials. **Results**: The GUSTO I,III and V trials enrolled 9200 diabetics and 52,509 non-diabetics. Compared with non-diabetics, diabetics were more likely to be older (mean age 63.98 ± 10.88 vs. 60.77 ± 12.19, P < 0.001), female (35.1 % vs. 24.3%, P <0.001), and more likely to have previous history of CHF, CABG, MI, previous PTCA, hypertension and greater body weight. Diabetics were at a greater risk of in-hospital death (9.5% vs. 5.5% %, P <0.001), and 30 day mortality (10.4% vs 6.0, P < 0.001). **Conclusions:** Compared to non-diabetics, diabetics continue to have a worse presentation and a worse outcome with myocardial infarction. Compared to patients enrolled in GUSTO I and III, patients enrolled in GUSTO V were more likely to receive beta blockers and angiotensin converting enzyme inhibitors and to have a better 30 day survival. This improved outcome is predominantly due to an improved survival of patients in Killip class I and II.

Diabetic subset	GUSTO I	GUSTO III	GUSTO V	P value
Number (Diabetic/ Total)	14.5% (5376/37110)	15.7% (1886/11996)	15.4% (1938/12603)	0.001
30 day mortality	10.7%	10.9%	8.9%	0.061
30 day-mortality (Killip I and II)	9.3% (474/5119)	9.6% (173/1802)	7.5% (140/1870)	0.04
30 day mortality (Killip III and IV)	44.5% (89/200)	44.1% (26/59)	50.0% (32/64)	0.722
ACE inhibitor use	28.9%	54.9%	67.3%	<0.001
Beta blocker use	75.1%	75.7%	83.5%	<0.001
Aspirin use	98.1%	98.6%	93.2%	<0.001